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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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09/659,132 09/11/00 STACHEW

C 2964R

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IM22/0327

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| EXAMINER |
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JOHNSON, J

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| ART UNIT | PAPER NUMBER |
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1764

DATE MAILED: 03/27/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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|------------------------------|-------------------------------|--------------------------------|--|
| Office Action Summary | Application No. 09/659,132 | Applicant(s) STACHEW ET AL. | |
| | Examiner Jerry D. Johnson | Art Unit 1764 | |

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- | | |
|---|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s) ____ |
| 16) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ | 20) <input type="checkbox"/> Other: _____ |

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-16, 25, 27 and 28 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Diana et al.

Diana et al, U.S. Patent 5,936,041, teach improved lubricating oil dispersants wherein a fractionating polymer is prepared prior to functionalization for making dispersant additives (abstract). The functionalization is preferably via the Koch reaction, but can be carried out by any other methods suitable for introducing mono- or dicarboxylic acid producing groups into the fractionated polymer, such as by reacting the fractionated polymer with a carboxylic reactant selected from the group consisting of a monounsaturated monocarboxylic acid producing compound and a monounsaturated dicarboxylic acid producing compound (column 5, lines 5-13). Preferred polymers have terminal unsaturation, preferably a high degree of terminal unsaturation (column 7, lines 12-13). The polymer material comprises a fractionated polymer having Mn of from about 700 to 10,000, more preferably from about 800 to 5,000, and most preferably from about 1,000 to 4,000 and a MWD of from about 1.2 to 3, more preferably from about 1.2 to 2.5, and containing less than about 10 mole % (preferably less than about 5 mole %, more preferably less than about 3 mole %) of polymer chains having a molecular weight of less than 500 (column 7, lines 56-66). Maleic anhydride is the preferred monounsaturated carboxylic reactant (column 21, lines 38-39). While any effective functionality can be imparted to functionalized, fractionated polymer intended for subsequent derivation, it is contemplated that

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such functionalities are typically not greater than about 3, preferably not greater than about 2, and typically can range from about 0.5 to about 3, preferably from 0.8 to about 2.0 (e.g. 0.8 to 1). (column 22, lines 15-21). The amine compound can be a heavy polyamine, which is defined as a mixture of higher oligomers of polyalkylene polyamines, having an average of at least about 7 nitrogen atoms per molecule. A preferred heavy polyamine is a mixture of polyethylene polyamines containing essentially no TEPA, at most small amounts of pentaethylene hexamine, and the balance oligomers with more than 6 nitrogens, the heavy polyamine having more branching than conventional commercial polyamines mixtures (column 24, line 61 to column 25, line 8).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17-24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diana et al as applied to claims 1-16, 25, 27 and 28 above, and further in view of Steckel.

Diana et al differ from the instant claims in not teaching dispersants wherein the polyamine reactant is the condensed polyamines of the instant claims.

Steckel, U.S. Patent 5,053,152, teaches that improved additives/dispersants for lubricant and fuel compositions are obtained by condensing a hydroxyalkyl or hydroxyaryl compound with an amine compound (abstract). The condensed amines of Steckel correspond to the instantly claimed condensed amines (II)(b). The condensed polyamines may be further reacted

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with, for example, an acylating agent, to give an even higher molecular weight dispersant (column 2, lines 6-11).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the condensed polyamines of Steckel to form a dispersant as taught by Diana et al because Diana et al teach that those amines, i.e., hydroxyamines, as well as heavy amines containing an average of at least about 7 nitrogen atoms per molecule can be used. See column 24, lines 41+ of Diana et al.

Applicant is advised that should claim 1 be found allowable, claim 28 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry D. Johnson whose telephone number is (703) 308-2515. The examiner can normally be reached on 6:00-3:30, M-F, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knobe can be reached on (703) 308-4311. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-5408 for regular communications and (703) 305-3599 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Jerry D. Johnson
Primary Examiner
Art Unit 1764

JDJ

March 24, 2001